

REMARKS/ARGUMENTS

Favorable reconsideration of the present application, as present amendment and in view of the following discussion, is respectfully requested.

Claims 16-35 are pending; and claims 16-34 are amended.

The changes to the claims address cosmetic matters of form and do not change the scope of the claims. No new matter is added.

The outstanding Official Action rejected Claims 16-19 and 35 under 35 U.S.C. § 102(b); and indicated Claims 20-34 as reciting allowable subject matter.

Applicants acknowledge with appreciation the indication of allowable subject matter. However, Claims 20-34 are maintained in dependent form as Applicants submit that Claim 16 patentably distinguishes over the applied reference.

Applicants respectfully traverse the rejection of the claims under 35 U.S.C. §102(b).

Claim 1 is directed to an automatic method for learning frequency chronicles in an alarm log, the alarms being associated with a plurality of events with a plurality of types. The method includes automatic selection and grouping of alarm sequences in the alarm log so as to form groups of similar alarm sequences. The method further includes automatic generation of a partial alarm log for each group of similar alarm sequences obtained in the automatic selection step, starting from alarms belonging to sequences of the respective group. The method also includes automatic learning of frequent chronicles in each partial alarm log obtained in the automatic generation step so as to generate a partial set of frequent chronicles for each partial alarm log obtained in the automatic generation step, and production of a set of frequent chronicles in the alarm log starting from frequent chronicles in each of the partial sets of frequent chronicles obtained.

Turning now to the applied reference, Wilson describes a peripheral data acquisition, monitor, and adaptive control system. Figure 2 of Wilson illustrates various systems 12-70 connected to an I/O bridge device 14.

Figure 3J of Wilson illustrates a display screen 210 showing the summary of the I/O channels. The summary illustrated in display screen 210 is a database type port of either a particular kind of channel or an overall summary of all the channels. For example, the display screen 210 illustrates a summary of the digital input channels, the normal state of the digital input channels (e.g., normally open or normally closed), and the current status of the digital input channels (e.g., active or inactive). Wilson further describes that a similar summary is provided for analog input channels.¹

Claim 1 is distinguishable over Wilson as the applied reference fails to disclose or suggest *automatic selection and grouping of alarm sequences*. Applicants submit that an alarm sequence is an ordering of alarm events based on a time of occurrence of the alarm events.² For example, if an alarm event A occurred at time t0, an alarm event B occurred at t2, and an alarm C occurred at time t1, where $t_0 < t_1 < t_2$, the corresponding alarm sequence is A, C, and B.

The overall summary of channels illustrated in Figure 3J of Wilson is not an alarm sequence. Specifically, the overall summary merely illustrates the current status of an I/O channel (e.g., whether the channel is active or inactive) instead of an ordering of events based on a time of occurrence of the events. For example, while the overall summary in Figure 3J of Wilson illustrates the status of the I/O channels 1-11, Wilson fails to disclose or suggest that the I/O channels 1-11 are ordered based on a time that the channels obtained the current status. Accordingly, the listing of the channels in the I/O channel summary of Figure 3J of Wilson is not an alarm sequence.

¹ See Wilson at column 18, lines 7-25.

² See specification at page 5, line 15 to page 6, line 9.

Furthermore, the listing of the I/O channels in Figure 3J of Wilson is not *grouping of alarm sequences in the alarm log so as to form groups of similar alarm sequences*.

Specifically, the channels listed in Figure 3J are classified according to the channel type (e.g., digital or analog). Since the listing of the I/O channels in Wilson is merely a classification on the type of channel rather than a classification of alarm sequences (e.g., a similarity between alarm sequences), Figure 3J of Wilson does not illustrate *a grouping of alarm sequences in the alarm log so as to form groups of similar alarm sequences*.

Claim 1 is further distinguishable over Wilson as the applied reference fails to disclose or suggest *automatic learning of frequent chronicles in each partial alarm log*. The outstanding Official Action asserts that column 18, lines 26-49 of Wilson discloses this feature. This cited portion of Wilson refers to Figure 3K which illustrates an overall summary of all outputs in a display screen 230. This overall summary includes a listing of all the parameters and various conditions needed to activate an I/O channel. Wilson describes that a user may use this information for troubleshooting a particular application.³

However, the overall channel summary illustrated in Figure 3K of Wilson is not *automatic learning of frequency chronicles*. Applicants submit that a frequency chronicle is the number of instances of a pattern (e.g., alarm sequences) occurring. As discussed above, Wilson fails to disclose or suggest alarm sequences, which are in ordering of alarm events based on a time of occurrence of the alarm event. Furthermore, the overall I/O channel summary of Figure 3K of Wilson is merely information indicating the conditions required for activation of a channel, which a user may use to troubleshoot an application. Therefore, the overall I/O channel summary is not a learning of the number of instances of a pattern.

³ See Wilson at column 18, lines 26-43.

Accordingly, Applicants submit that Wilson fails to disclose or suggest all the features of Claim 1. Thus, Applicants respectfully request that the rejection of Claim 1, and the claims depending therefrom, under 35 U.S.C. §102(b) be withdrawn.

As independent Claim 35 recites features analogous to Claim 1, Applicants submit that Wilson fails to disclose or suggest all the features of Claim 35. Thus, Applicants respectfully request that the rejection of Claim 35, and the claimed dependent therefrom, under 35 U.S.C. §102(b) be withdrawn.


Consequently, in view of the present response, no further issues are believed to be outstanding and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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